UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,140	07/25/2005	Toshiro Kinoshita	0970.1013	5466

21171 7590 05/06/2009

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
HEYI, HENOK G	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
05/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,140	KINOSHITA ET AL.	
	Examiner	Art Unit	
	HENOK G. HEYI	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5-7 and 10-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-7 and 10-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07/25/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 02/20/2009 have been fully considered but they are not persuasive. Applicant argues that the Odamura reference is not directed to an optical disk. However, as pointed out in the previous office action, Odamura teaches a recording layer in which information can be optically recorded or read (see para [0129]). Applicant argues that the material cited in Odamura may be appropriate for an image printed by thermal transfer but are not appropriate for a layer on which digital information is recorded using a laser. The printing layer that is claimed in the amended claim 1 is not specified to be only optical printing layer. Since the printing layer is broadly claimed as just a printing layer and there is no claim limitation of how it works, the printed product of Odamura that is obtained by forming an image on the receptor of the transfer recording medium reads on it. Applicant argues also about how the release layer of the current application is different from the release layer taught by Odamura. The claim language doesn't show that the release layer is supposed to aid separation of each layer during disposal. In regards to applicant's argument that there is no evidence that Odamura discloses any lamination manufacturing process, examiner would like to point out the lamination process taught by Odamura in para [0035].

Claim Objections

2. Claims 10 and 11 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim *cannot depend from any other multiple*

dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 5-7 and 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odamura et al. US 2005/0233173 A1 (Odamura hereinafter) in view of Kikuchi et al. US 6,951,027 B2 (Kikuchi hereinafter).

Regarding claim 1, Odamura teaches an optical recording medium (a recording layer in which information can be optically recorded, para [0129]) comprising: a substrate (Substrate Film, para [0042]) including resin-impregnated paper in which a resin has been impregnated into paper or resin-coated paper in which the paper surface has been coated with a resin; and a recording layer provided on at least one side of the substrate (resin or emulsion impregnated paper, para [0071]); a printing layer provided on at least one side of the substrate (the intermediate transfer recording medium of the present invention, a rear layer, which has been known hitherto, may be formed on the back face of the substrate, para [0045]); and a release layer provided between the substrate and the recording layer and/or between the substrate and the printing layer (a

receptor layer and a peelable layer which is interposed between the receptor layer and the substrate and which facilitates the release of the transferable portion from the substrate, para [0114]). But Odamura fails to teach optical disk specifically. However, Kikuchi teaches an optical recording medium (an optical disc, Fig. 1) with a printed surface that could possibly be used in a card type of recording medium as well (see Fig. 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical recording card of Odamura (see para [0072]) to be an optical recording disk as taught by Kikuchi (col 4 lines 57-67). The modification would have been obvious because of the benefit of optical discs over optical cards in storage capacity.

Regarding claim 2, Odamura teaches an optical recording medium according to claim 1, but is silent about the centerline average roughness Ra of at least one side of the substrate being 0.5μm or less, and the maximum roughness Rmax being 6.0μm or less. However, Kikuchi teaches an arithmetic mean relative roughness which is definitely below 6.0μm and preferably below 0.5μm as shown in Fig. 3.

Regarding claim 5, Odamura teaches an optical disk according to any of claims 1 and 2, further comprising: a protective layer for protecting the recording layer (When the transferable portion is transferred onto the transfer-receiving material, the transferable portion functions as a protective layer, para [0136]).

Regarding claim 6, Odamura teaches an optical disk according to any of claims 1 and 2, wherein the recording layer has a recording layer base material that serves as a support for the recording layer, and the recording layer base material includes a non-

hydrophilic film (polyolefin, polyethylene, polypropylene and other non-hydrophilic materials are used, para [0059]).

Regarding claim 7, Odamura teaches an optical disk according to claim 5, wherein the recording layer has a recording layer base material that serves as a support for the recording layer and the recording layer base material includes a non-hydrophilic film (polyolefin, polyethylene, polypropylene and other non-hydrophilic materials are used, para [0059]).

Regarding claim 10, Odamura teaches an optical disk according to any of claims 1, 2 and 5, wherein the at least one release layer includes a release layer provided between the substrate and the recording layer (a receptor layer and a peelable layer which is interposed between the receptor layer and the substrate and which facilitates the release of the transferable portion from the substrate, para [0114]).

Regarding claim 11, Odamura teaches an optical disk according to any of claims 1, 2 and 5, wherein the at least one release layer includes a release layer provided between the substrate and the printing layer (a receptor layer and a peelable layer which is interposed between the receptor layer and the substrate and which facilitates the release of the transferable portion from the substrate, para [0114]).

Regarding claim 12, Odamura teaches a manufacturing method of an optical disk, comprising the steps of: a recording layer sheet fabrication step in which a recording layer sheet is fabricated by forming tracks on a recording layer base material (a recording layer in which information can be optically recorded or read is formed beforehand, para [0129]); and a recording layer sheet lamination step in which a

recording layer included the recording layer sheet is provided on a substrate (an intermediate transfer recording medium 1 is an example wherein a peelable layer 3 and a receptor layer 4 are successively laminated on a substrate, para [0035]) included resin-impregnated paper or resin-coated paper by laminating the recording layer sheet with resin-impregnated paper in which a resin is impregnated into paper or resin-coated paper in which the surface of the paper is coated with a resin (resin or emulsion impregnated paper, para [0071]).

Regarding claim 13, Odamura teaches a manufacturing method of an optical disk according to claim 12, further comprising the steps of: a printing sheet fabrication step in which a printing sheet is fabricated by carrying out printing on a printing base material (and a printed product obtained by forming an image on the receptor layer in the transferable portion by thermal transfer and then retransferring the formed image, together with the transferable portion, from the intermediate transfer recording medium to a transfer-receiving material, para [0002]); and a printing sheet lamination step in which a printing layer included of the printing sheet is provided on a substrate (thermal transfer recording has widely been used as a simple printing method. The thermal transfer recording is a method of laying a thermal transfer sheet wherein a colorant layer is disposed on one surface of a substrate film on a thermal transfer image-receiving sheet, para [0004]) included resin-impregnated paper or resin-coated paper by laminating the printing sheet with resin-impregnated paper in which a resin is impregnated into paper or resin-coated paper in which the surface of the paper is coated with a resin (resin or emulsion impregnated paper, para [0071]).

Regarding claim 14, Odamura teaches a manufacturing method of an optical disk according to claim 12, further comprising the steps of: a protective film lamination step in which a protective layer included a protective film is provided on the recording layer by laminating the protective film onto the recording layer (When the transferable portion is transferred onto the transfer-receiving material, the transferable portion functions as a protective layer, para [0136]).

Regarding claim 15, Odamura teaches a manufacturing method of an optical disk according to claim 13, further comprising the steps of: a protective film lamination step in which a protective layer included a protective film is provided on the recording layer by laminating the protective film onto the recording layer (When the transferable portion is transferred onto the transfer-receiving material, the transferable portion functions as a protective layer, para [0136]).

Regarding claim 16, Odamura teaches a manufacturing method of an optical disk according to any of claims 12 through 15, further comprising the steps of: a release layer formation step in which a release layer is formed on at least one side of the resin-impregnated paper or resin-coated paper in advance (a receptor layer and a peelable layer which is interposed between the receptor layer and the substrate and which facilitates the release of the transferable portion from the substrate, para [0114]).

Regarding claim 17, Odamura teaches a manufacturing method of an optical disk according to any of claims 12 through 15, wherein each sheet is produced in the form of a wound roll, and each sheet in the form of a wound roll is laminated (a commercially

available laminator having a permanently-installed heat roll was used to transfer the transferable portion 5 wherein the above-mentioned images were formed onto a transfer-receiving material, para [0158]).

Regarding claim 18, Odamura teaches a manufacturing method of an optical disk according to claim 13, wherein the printing sheet fabrication step has a step in which mutually different variable information imparted to each optical disk produced is printed on the printing base material (a printed product obtained by forming an image on the receptor layer in the transferable portion by thermal transfer and then retransferring the formed image, together with the transferable portion, from the intermediate transfer recording medium to a transfer-receiving material, para [0002]).

Regarding claim 19, Odamura teaches an optical disk free of bisphenol A, comprising: a substrate (Substrate Film, para [0042]) made of a resin-impregnated paper in which a resin has been impregnated into paper or a resin-coated paper in which at least one of the paper surfaces has been coated with a resin (resin or emulsion impregnated paper, para [0071]); a recording layer on which information is recorded and read from using laser light, provided on one side of the substrate (recording layer in which information can be optically recorded or read, see para [0129]).

Regarding claim 20, Odamura teaches an optical disk according to claim 19, further comprising: a release layer between the substrate and the recording layer for separation of the substrate and the recording layer during disposal (a receptor layer and a peelable

layer which is interposed between the receptor layer and the substrate and which facilitates the release of the transferable portion from the substrate, para [0114]).

Regarding claim 21, Odamura teaches an optical disk according to claim 19, but Odamura fails to teach that the recording layer is one of a play-back only type of recording layer, write-once type of recording layer, and rewritable type of recording layer. However, Kikuchi teaches recording media in which playback or recording is done by laser light having a recording layer in which rewriting of one time or multiple times by a user is possible (see col 1 lines 8-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the recording medium of Odamura so that it would be able to playback and also the storage medium could either be write-once or rewritable. The modification would have been obvious because users need storage mediums for different purposes and accordingly they could choose to either use a write once disk or a rewritable one.

Regarding claim 22, Odamura teaches an optical disk according to claim 19, further comprising at least one of a protective layer covering and protecting the recording layer, and a printing layer provided on the side opposite from the side of the substrate provided with the recording layer on which printed images are transferred (When the transferable portion is transferred onto the transfer-receiving material, the transferable portion functions as a protective layer, para [0136]).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENOK G. HEYI whose telephone number is (571)270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

/Henok G Heyi/
Examiner, Art Unit 2627